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MARSHALL STAR
Serving the Marshall Space Flight Center Community
May 3, 2007

Marshall, Rocketplane Kistler sign pact for Michoud work

By Sheri Bechtel

The Marshall Center has signed a Space Act Agreement with Rocketplane Kistler Inc. of Oklahoma City. The agreement calls for Rocketplane Kistler to assemble the company's K-1 Space Transportation System at NASA's Michoud Assembly Facility in New Orleans.

Rocketplane Kistler is developing its K-1 reusable launch vehicle to conduct a demonstration flight to the International Space Station as part of NASA's Commercial Orbital Transportation System Project, with a goal of providing commercial orbital cargo services in the future. NASA's partnership with private industry will demonstrate a cost-effective means of delivering cargo to and from the space station. An option to develop crew transportation is included in the Commercial Orbital Transportation System Space Act Agreement.

The K-1 incorporates proven technologies from successful aerospace programs. The kerosene-liquid oxygen powered vehicle is approximately 121 feet long, 22 feet in diameter and weighs approximately 840,000 pounds at liftoff. It is designed to be fully reusable and is expected to provide reliable and safe transportation to Earth orbit.

Rocketplane Kistler

A concept image of the K-1 Space Transportation System being developed by Rocketplane Kistler.

The agreement with Marshall, which manages the Michoud facility on behalf of NASA, provides facilities for use by some 200 skilled workers at Michoud. Approximately 100 more Rocketplane Kistler subcontractor employees will go to the New Orleans area during assembly and check-out phases of the project.

According to the agreement, Rocketplane Kistler will assemble and perform system testing of the first and second stages of the K-1 launch vehicle at Michoud. The company also may use the NASA facility to assemble and check out the vehicle's pressurized and unpressurized cargo modules, used to demonstrate the ability to safely and reliably berth with the space station.

The K-1 vehicle is in advanced stages of development. First and second stage liquid oxygen tanks built by Lockheed Martin Corp. stand ready for installation at Michoud. External panels from Northrop Grumman Corp. are at the facility, with others being transported to Michoud. In addition, preparation for vehicle assembly is well under way.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

Marshall facility helping ready hail-damaged external tank for space shuttle mission in June

By Sanda Martel

The Marshall Center Engineering Directorate's Materials Environment Test Complex has been the focus of much activity and interest during recent weeks. Several visitors from NASA Headquarters and the Johnson Space Center in Houston have toured the test facility for a close-up look at work being performed to send Space Shuttle Atlantis on its June mission.

This unique Marshall test facility is part of a team effort to repair external tank ET-124 and return it to flight readiness condition. The tank was damaged by hail during a thunderstorm that hit NASA's Kennedy Space Center, Fla., Feb. 26, as Atlantis was poised on the launch pad for a March 15 lift off. The tank was damaged at about 2,700 sites, and the repairs have caused the launch of the STS-117 mission to the International Space Station to be delayed until June.

While repairs continue inside the Vehicle Assembly Building at the Kennedy Center, Marshall's Materials Environment Test Complex is testing foam repairs being made on the tank at the Kennedy Center,

See External tank on page 4

NASA Student Launch Initiative: Following in rocket pioneers' footsteps

Teams launch rockets and earn recognition

David Higginbotham/MSFC

A student-designed rocket takes flight. The launches were part of three days of events sponsored and hosted by the Marshall Center.

By Sherrie Super

Just minutes from where NASA rocket pioneers created the massive Saturn V rocket that launched the first humans to the moon, a new generation of rocket scientists launched their vehicles to the skies on Saturday, April 28, as part of the NASA Student Launch Initiative.

For the students — 15 middle and high school teams from 12 states — the launch culminated a school year of work designing innovative rockets. With rockets flying a mile high, the launch was the high point, literally, of three days of events sponsored and hosted by the Marshall Center.

With the Boeing Company as a major sponsor, this year's competition challenged each student team to design, build and test a rocket; prepare a scientific payload to ride on board; post a Web site of their own design that showcases their work; and present formal project reviews to a panel of NASA engineers.

"This is one of many NASA education projects that encourage young people to test their math and science skills in practical, real-world situations," said Tammy Rowan, interim manager of Marshall's Academic Affairs Office. "We hope the model rocket builders of today become the scientists, engineers, astronauts or educators of tomorrow."

The events began April 26, when teams brought their rockets to the Marshall Center for a presentation to NASA employees. Students from each team explained how their rocket would work and described the nature and value of the scientific payload it

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Students watch as a rocket takes to the sky April 28 as part of NASA's Student Launch Initiative. For the students — 15 middle and high school teams from 12 states — the launch was the result of hard work and dedication.

Participating teams

Student Launch Initiative participants included 15 middle and high school teams from 12 states. Each team was recognized with plaques for their outstanding work in developing and launching their rockets.

- Benson High School in Omaha, Neb.
- Boy Scout Troop 39 in Marlborough, Conn.
- Byron High School in Byron, Ill.
- Covenant Christian High School in Indianapolis, Ind.
- Lakewood High School in Lakewood, Colo.
- Lloyd C. Bird High School in Chesterfield, Va.
- Madison West High School in Madison, Wis.
- Plantation High School in Plantation, Fla.
- Southfield High School in Southfield, Mich.
- St. Andrews Lutheran Church and School in Park Ridge, Ill.
- Statesville Christian High School in Statesville, N.C.
- Warner Robins High School in Warner Robins, Ga.
- Weare Middle School/John Stark Regional High School in Weare, N.H.
- West Point-Beemer High School in West Point, Neb.
- Yough High School in Herminie, Pa.

THE FACE OF MISSION SUCCESS IS:

Amy Floyd

Senior program analyst for the Ares I Upper Stage Program Planning & Control Office in Marshall's Exploration Launch Projects Office

Everyday, NASA is moving closer to completion of Ares I, the crew launch vehicle that will carry the Orion spacecraft to Earth orbit. Under the guidance of Amy Floyd, senior program analyst for the Upper Stage Program Planning & Control Office in Marshall's Exploration Launch Projects Office, managers working the upper stage element for Ares I are becoming acquainted with Earned Value Management. This system keeps the project team focused on developing the next-generation launch vehicle and NASA's exploration mission goals to return to the moon and travel to destinations beyond.

What is your education background?

I have a Bachelor of Science degree in business from Athens State University in Athens, Ala.

How long have you been at the Marshall Center?

I began my career at Marshall in June 1989 as a cooperative education student. I was a program analyst supporting the Science & Engineering Directorate, which is now the Engineering Directorate. When I completed my degree in 1990, I became a full-time employee.

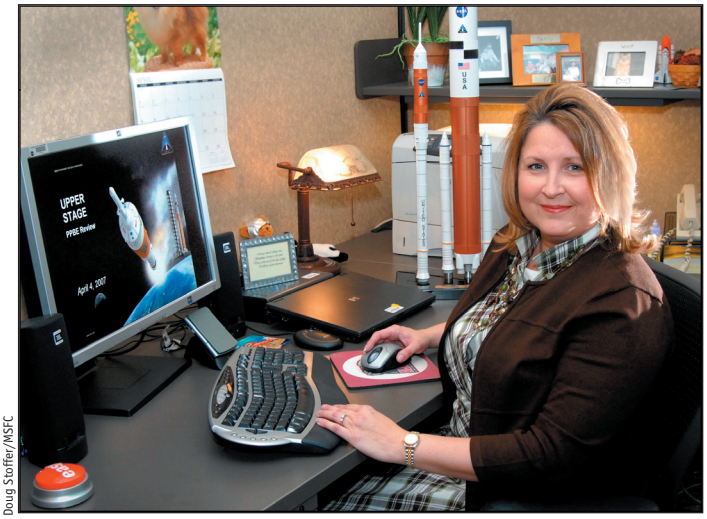
What are the key responsibilities of your job?

As a senior program analyst, I am responsible for budget and workforce planning and development, monthly financial reporting and Earned Value Management for the upper stage element. Earned Value Management is a project management technique used for measuring forward progress objectively. It has the ability to combine measurements of technical, schedule and cost performances within a single integrated methodology. The management system provides an early warning of performance problems while there is time for corrective action.

In addition, it also communicates progress to stakeholders and keeps the project team focused on reaching projected milestones on time.

What services does your job provide in support of the center's mission?

As part of the Upper Stage Program Planning & Control Office team, I support the upper stage subsystem managers and project leads with the planning and implementation of their workforce requirements and financial budgets. I monitor obligation, cost and total employee levels on a monthly basis against budget, and I investigate variances in those numbers. I also supply the subsystem managers with reports each month to assist them in understanding the cause of any variances, as well as the necessary mitigation for future months.



Doug Stoffer/MSFC

Amy Floyd

What do you hope to accomplish in your role this year?

The Upper Stage Program Planning & Control Office team has worked this past year, along with the Performance & Capabilities Management Team in the Office of Strategic Analysis & Communications, to implement an Earned Value Management system that includes an Integrated Master Schedule, so, as an organization, we can monitor the progress of a program. This includes the future prime contractor's Integrated Master Schedule combined with Business Warehouse actuals, or the financial reporting of a program, into the Earned Value Management tool.

It is our goal to supply our subsystem managers with monthly Earned Value Management data.

What is the biggest challenge you face?

The biggest challenge I face is establishing an Earned Value Management system on an in-house activity and integrating two prime contracts. This is a large-scale activity that has never been done for an in-house project of this size. The establishment requires a lot of coordination with managers, such as the upper stage subsystem managers.

On the personal side, how do you like to spend your leisure time?

My husband, Billy, and I enjoy spending time at the lake and traveling. We also enjoy spending free time with our nieces and nephews.

Jessica Wallace, an ASRI employee and Marshall Star editor in the Office of Strategic Analysis and Communications, contributed to this article.

External tank

Continued from page 1

said Shawn Selvidge, an External Tank Project engineer leading the project.

After a test plan was laid out by the Space Shuttle Program, engineers and technicians at the Marshall test facility built foam test panels complete with simulated hail damage, said Selvidge. "The prototypes are subjected to different heat environments to mimic the high temperature conditions experienced during pre-launch, ascent and break-up to see how they perform," he said.

"The prototypes are then inspected to ensure, for the sand and blend repairs, that we are sanding and blending to the proper depth, diameter and correct angle to prevent ice formation."

The majority of hail damage sites are on the forward liquid oxygen tank, on the left side, with some damage also noted on the liquid hydrogen tank and the intertank.

Selvidge said, "We mapped every impact on the tank by location, depth and diameter, and right away, we saw some that looked small enough that they could have been cut with a fingernail, and others that needed more extensive repair.

"We knew we had four options, because, historically, that's how we do tank repairs," he said. The repair options include:

- Sand and blend, a common type of repair involving sanding and machining in areas where sufficient remaining foam thickness will meet the thermal requirements to prevent ice formation, sustain propellant quality and protect hardware for ascent heating. Foam sanding will remove damaged foam and provide acceptable surface contour. About 1,600 defect sites were identified for this procedure. This type of damage was noted at all locations on the tank. This is the type of repair being verified in Marshall's Hot Gas Facility.
- Remove damaged foam and reapply "pour foam," to replace originally applied automated spray material. This type of foam, known as PDL foam, for Product Development Laboratory, has been uniquely developed and verified for repairs to small areas on the tank. It is routinely used in hardware production to address incidental damage to foam material. This repair method is being used in areas where damage was so extensive that it required additional thermal protection to meet launch and flight constraints. There are about 800 sites on the liquid oxygen tank requiring this type repair.
- BX-265 spray foam replacement, a specially developed spray repair that has been flown on Return-to-Flight hardware. The spray repair has been designed for areas where damage is too severe to allow the use of a pour foam repair. This spray required a demonstration to ensure that process application and performance meets or exceeds thermal protection and debris minimization requirements. The spray is being applied in two separate areas on the forward and aft ogive — the pointed arch shape on the nose section — of the liquid oxygen tank. Defects due to hail damage in these areas were not tabulated, but are estimated to be more than 1,000.
- Other barely visible minor damage will be flown "as is," because the condition and location are such that they can still meet the design requirements.

"This type of testing has been done for years, but still we have to demonstrate that these specific repairs can meet requirements. We have to get the testing behind us so we can complete the ET-124

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About the external tank thermal protection system

The outside of the external tank is covered with a multilayered thermal protective coating to withstand the extreme temperature variations expected during pre-launch, launch and early flight.

Materials used are outer spray-on polyurethane foam that covers the entire tank and pre-molded materials that provide additional protection for the portions of the tank subject to very high temperatures. Although the outer surface is covered with a thermal coating approximately one-inch thick, the exact type of material, thickness and application varies at different locations on the tank.

The insulation applied over the oxygen tank, intertank and hydrogen tank primarily reduces the boil-off rate of propellants and eliminates ice formation on the outside of the tanks due to extremely cold propellants inside.

A high-temperature ablative material, a specially coated material designed to provide thermal protection, is applied to the tank's nose cone, the aft dome of the liquid hydrogen tank and portions of the liquid hydrogen barrel, and in areas where projections are subject to high aerodynamic heating during flight.

Each element of the external tank has its own thermal protection system requirement, determined by environments and mission conditions. The thermal protection is applied to the tank while in an upright position. The tank rotates on a turntable as automatic sprayers apply the foam under controlled temperature, humidity and cleanliness conditions. However, the thermal protection is applied manually to major connecting areas of the tank to ensure that all surfaces are insulated as required. Pre-molded sections are used where spray operations are prohibited because of accessibility or cleanliness constraints.

External tank

Continued from page 4

repairs," Selvidge said.

Most of the liquid hydrogen tank repairs have been completed and most of the intertank section damage sites are superficial and require little or no repair, said Wayne Hale, Space Shuttle Program manager, in a March 21 teleconference with news media.

NASA decided to roll Space Shuttle Atlantis off the launch pad and back inside the Vehicle Assembly Building at the Kennedy Center after the severe thunderstorm with golf ball size hail caused 7,000 divots in the giant tank's foam insulation. Workers mapped the entire tank and built scaffolding to allow an up-close look to determine the type of repairs required and the time needed to complete the work. About 2,660 defects have been or will be repaired.

Marshall's Materials Environment Test Complex offers test conditions that closely simulate flight environments for heating rates, local pressure, recovery temperature and run duration. The facility houses a gaseous hydrogen/air combustion-driven wind tunnel used primarily for thermal protection system testing and aerothermal environments definition.

It can simulate aerodynamic heating environments such as space shuttle ascent trajectories. Test environments can be generated to follow a flight temperature profile in order to provide an "as flown" evaluation of material thermal performance.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

Dennis Olive/MSFC

During an April 12 tour of a test facility in the East Test Area, David King, Marshall Center director, inspects a panel constructed to replicate hail damage like that seen on the space shuttle's external tank ET-124. The Marshall facility is testing foam repairs being performed on ET-124 at the Kennedy Space Center, Fla. Standing, from left, are Shawn Selvidge, an engineer in the External Tank Project office and NASA astronaut Barry Wilmore.

Student launch

Continued from page 2

would carry.

Later, students toured Marshall, visiting the Payload Operations Center — the science command post for the International Space Station — and the Environmental Control and Life Support System facility — the life support system that provides the space station with clean air, a comfortable living environment and potable, or drinkable, water.

Other tour stops included visits to the test stands where NASA engineers once fired the full-sized engines for the space shuttle and the engines that powered the Saturn V rocket that carried astronauts to the moon. Students also visited the Exploration Launch Projects Office, where they learned about NASA's Ares I crew launch vehicle, which will transport the Orion crew exploration vehicle and its crew to Earth orbit, and visited the U.S. Space & Rocket Center.

On Saturday morning, the teams made their way to Test Area One on Redstone Arsenal, where they finally let their rockets soar.

The Student Launch Initiative is managed by the Marshall Center in partnership with the Boeing Company and the Huntsville Area Rocketry Association.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

United Negro College Fund honors Marshall's David Brock

By Jessica Wallace

David Brock, a small business specialist in the Marshall Center's Office of Procurement, has been honored by the United Negro College Fund for his significant contributions, dedication and support of a wide range of educational opportunities for students in the Huntsville community.

David Brock

The presentation was made April 5 at the Von Braun Center in Huntsville.

The United Negro College Fund is America's oldest minority higher education assistance organization with 39 colleges and universities as members. All member schools are private, fully accredited, four-year, historically black colleges.

Since the college fund was founded in 1944, $2 billion has been raised to provide educational opportunities to students. Each year, about 8,000 students supported by the fund earn undergraduate, graduate or doctoral degrees.

Brock helps identify work opportunities for small businesses and minority students from colleges such as Alabama A&M University and Oakwood College, both in Huntsville. "Our goal is to make sure opportunities to work with large companies like Lockheed Martin Corporation, Boeing Company and ATK Thiokol are open to smaller businesses and minority students," said Brock. "In return, small business employees and students will have the chance to help with NASA's mission, such as working on and completing the Ares I crew launch vehicle.

"I am extremely honored to even be considered for this award," said Brock. "Even though we haven't completely met all of our goals, the United Negro College Fund felt my efforts were worthwhile, and I am very moved."

The writer, an ASRI employee and Marshall Star editor, supports the Office of Strategic Analysis and Communications.

College rocket scientists to reach for the stars Saturday, May 5

By Sherrie Super

College students from across the region are hard at work on model rockets, set to launch into the heavens Saturday, May 5, as part of NASA's University Student Launch Initiative. Hosted by the Marshall Center, the event follows the high-school-level rocket launch that occurred April 28.

University students from seven schools in the Southeastern United States are taking part in the project, which provides students a unique opportunity to gain practical experience in scientific research and in aerospace and engineering activities.

"With the University Student Launch Initiative, NASA continues its tradition of investing in the nation's education projects," said Tammy Rowan, interim manager of Marshall's Academic Affairs Office. "We want to foster learning environments that will inspire young people to set their sights on venturing to the moon, Mars and destinations beyond."

NASA engineers and scientists will evaluate each rocket design, including propulsion systems, materials used for construction, payload and safety features. They also will look at the altitude reached, how the teams conducted formal reviews and their Web site designs.

To become eligible for the project, each team submitted a proposal detailing their plans for the rocket and payload. Once selected, the teams receive varying levels of project support from the National Space Grant Consortium, an affiliation of more than 550 universities, private companies and local education institutions dedicated to inspiring and training the next generation of America's space workforce.

Teams participating in the University Student Launch Initiative are from Alabama A&M University in Huntsville; Auburn University in Auburn, Ala.; Fisk University in Nashville, Tenn.; Harding University in Searcy, Ark.; Mississippi State University in Starkville; University of Alabama in Huntsville; and Vanderbilt University in Nashville.

The University Student Launch Initiative is a competition. NASA, along with ATK Thiokol, will sponsor the winning team to attend a space shuttle launch.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

Obituaries

Walter H. Goodhue Jr., 84, of Huntsville died April 19. He retired from the Marshall Center in 1988 as an engineer. He is survived by his wife, Mary Goodhue.

Nelma L. Wilkes, 78, formerly of Huntsville, died April 21. She retired from the Marshall Center in 1989 as an accounting technician.

Bill Gerstlauer, 81, of Huntsville died April 25. He retired from the Marshall Center in 1979 as a program analyst. He is survived by his wife, Frances Gerstlauer.

WAFF 48 road tour 'storms' into Marshall Center on May 3

The "storm team" from Huntsville's WAFF-TV, Channel 48, will bring its multimedia road tour exhibition to the Marshall Center on Thursday, May 3.

The local NBC affiliate's severe-weather exhibit will be open to employees from noon to 2 p.m. in the lobby of Building 4200.

The 48 storm team also will hold a weather awareness presentation in Morris Auditorium from 1 to 2 p.m. The presentation will include discussion of severe weather safety at work and at home, demonstrations of weather tracking technology and an opportunity to program employees' personal weather radios.

Weather radios are available for purchase at the NASA Exchange in Building 4203.

All Marshall Center personnel are invited to attend the exhibit and presentation. Each attendee will receive a free T-shirt.

The event is hosted by the Marshall Center's Community Resource Office. For more information, call officer David Spray at 544-6843.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue is 4:30 p.m. Thursday.

Miscellaneous

Set of 4 premium alloy wheels, came off 2002 Toyota Camry, 15". 506-3236

APHA-registered chestnut/tobiano paint stud colt, $2,500. 431-6998

Indy 500 tickets, Memorial Day weekend, four paddock seats, $90 each. 679-3565

2 tickets, Elton John concert, Birmingham Civic Center on May 5, upper deck, $100/pair. 655-7292

Oakmont Resort 1-bedroom condo, Pigeon Forge, Memorial Day week, near Dollywood & shopping, $350. 337-9683

1-year Silver Membership subscription, Family Fitness Center in Madison, $300. 777-0606

1998 Gibson J100 guitar, "Super Jumbo" design, Fishman pickup installed, $1,200. 652-8662

Webcor reel-to-reel recorder, 15 free music tapes with purchase, $30. 837-6776

ProForm 745CS treadmill, $150. 656-0766

Oleg Cassini off-white wedding gown, size 14, $500 obo. 654-4380

Wedding dress, size 10, $250. 694-4792

42-inch plasma TV, LG Model RU-42PZ61, no stand, $800. 429-8534

5-piece solid oak bedroom set, includes 2 dressers, 2 hutches, desk, $500. 337-1471

Solid dark cherry full-size futon, Beautysleep mattress, $150 obo. 509-4454

Dresser w/ mirror, 2 drawers/shelves, 50x42x9, $20. 348-9381

Bassett oak baby dresser, $75. 961-0427

2 Broyhill blue Queen Anne chairs, $200 each; foosball table, $300; trampoline, $80. 683-7015/883-6496

Thomasville 5-piece queen bedroom set without mattress, $500. 519-9326 or 348-0895

Full headboard, $30; foosball table, $50. 772-1870

Twin pillowtop mattress, new, 13-inch-deep, 3-inch pillowtop, $250. 233-0765

Kidsline 8-piece "Big Wheels" crib bedding set, $50; 6-piece bear/bunny/beach crib bedding set, $50. 852-9617

27-inch Zenith floor-model TV, black cabinet, $325; 25-inch Sylvania floor-model TV, walnut cabinet, $300. 772-6469

5-foot outdoor patio swing, metal frame, $20. 325-2919

Kenmore 90 series washer/dryer set, $400 for both. 895-6916

NordicTrack, $40; dorm-size fridge, $20; Brother sewing machine, $10. Chuck, 885-2448

NordicTrack bicycle, $200; dressing table with stool, $175. 457-4816

Martin Jaguar Magnum compound bow, $200. 293-9135

Kid's Chopper bicycle, $75. 468-9377

$50 gift certificate toward Oriental Rug cleaning, Admiral Cleaning and Restoration, $35 firm. 895-6722

Remington 1100 12-gauge, 3-inch magnum, 30-inch ventilated rib barrel, $425. 931-425-0205

Portable grill, Foreman-style, integrated thermos ice chest, Grill2Go/Fire-N-Ice, new in box, $100 obo. 233-0705

9-foot-by-12-foot oriental rugs. 464-7262

4-foot-by-4-foot doghouse, new, 2-foot overhang, $100; 10-foot-by-10-foot dog kennel, new, $200. 682-7165

American pitbull terrier pups, 10 wks old, wormed, black/brown-brindled, $100 each. 520-4930

Decorative stone/flat rock, about 2 pallets. 503-8000

Box of 2,000 nails for air gun, Paslode Round Drive 3x131, $20. 883-1003

Vehicles

1997 Honda Accord special edition, 4 door, gold, sunroof, 128k miles, $3,900. 679-0485

2006 Chevrolet Trailblazer EXT LT, V8, fully loaded, sunroof, DVD, 10K miles, $26,500. 565-9918

2004 Lincoln Aviator, 2WD, 32K miles, white, rear DVD system, $22,000 firm. 541-2049

2004 Dodge Ram SWB, black, Hemi, 41k miles, $13,500. 468-9377

2003 Harley-Davidson Ultra Classic 100 Anniversary Edition, extended warranty. 348-5300

2002 Honda Odyssey EX, leather, all power, side air bags, new tires, 59K miles, $14,500. 603-1273

2001 Ford Expedition Eddie Bauer, 83K miles, all power, $12,900. 830-0305

2000 GMC Sonoma 4X4, off-road, 87K miles, $10,000. 931-967-7307

2000 Victory Motorcycle 1592cc Cruiser. 722-8064

1998 Dodge Stratus, white, 5 speed, sunroof, 76k miles, $3,000. 797-1300

1994 Lexus LS400, black/tan leather interior, 130K miles, $8,250. 533-0087

1986 Nissan 300zx, red, low miles, $2,400. 759-3009

18-foot bass boat, 150 Mercury, custom paint, $7,400.00. 679-3430

25-foot 2004 Jayco Jay Feather light trailer, sofa, awning, gas grill, spare tire, $12,900. 852-6983

Wanted

Electric golf cart in running condition; looks not important. 200-0687

Square hitch for 2002 Toyota Highlander; 2- to 4-bike rack with rails. 880-9025

Free

9-month-old spayed female cat needs home. 679-1288

Marshall Center hosts NASA representatives on April 23-27

Emmett Given/MSFC

NASA Administrator Dr. Michael Griffin, left, and Deputy Administrator Shana Dale, center, join Center Director David King for a centerwide all-hands meeting April 26.

Emmett Given/MSFC

Keith Robinson with the Business Planning & Integration Office in the Office of Strategic Analysis & Communications posed one of several questions from employees on a range of topics at the all-hands meeting.

David Higginbotham/MSFC

NASA Administrator Dr. Michael Griffin, second from left; Constellation Program Manager Jeff Hanley; Associate Administrator for the Exploration Systems Mission Directorate Scott Horowitz; and Marshall's Exploration Launch Projects Office Manager Steve Cook field questions from Marshall employees supporting Constellation during an all-hands question and answer session in Morris Auditorium April 24.

Emmett Given/MSFC

NASA Associate Administrator Rex Geveden, right, chairs the Program Management Council meeting at Marshall on April 26. The council, one of the agency's three governing bodies, focuses on program and project performance to achieve NASA's strategic goals and objectives.

MARSHALL STAR

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